

# Urbanization and Environmental Problem: An Empirical Study In Sylhet City, Bangladesh.

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## Abstract

Urbanization is a growing phenomenon in Bangladesh. This paper examined the consequence of unplanned urbanization on environment in Sylhet City Corporation in Bangladesh (SCC). A cross sectional study was conducted in Sylhet city and social survey and FGD method were applied to collect the primary data from the respondents. This study showed that rapid urbanization have created social, economic, environmental and cultural problem. The urbanization has different environmental impacts such as water supply problem, solid waste management, disposing waste system, water logging problem, traffic congestion and sound pollution. Among the negative social consequences of urbanization, increasing incidence of crime and traditional family function and relation has been changed. Urbanization has created extreme pressure on housing, unemployment, infrastructure problems and urban services like education, health, transportation, water, sanitation, electricity, fuel, garbage clearance, recreation etc. To resolve the effect of urbanization, the citizens should be conscious as well as government should take proper initiatives and policy.

**Keywords:** Urbanization, Environmental Problems, Social Problems, Cultural Problems, Bangladesh

## 1. Introduction

### 1.1 Statement of the Problem

Urbanization is one of the most important characteristics of development and modernization. It is generally believed that urbanization is a result of industrialization. There are a range of components can be found behind the development of urbanization such as; economic basis, condition of trade and business dimension of industrialization, infrastructures facilities, developed communication system, geographical location, higher administrative centre, higher educational institution, tourist place, fascinating environment and climate etc (Mamun, 2003). The development of urbanization would accelerate if the unplanned urbanization the environment disaster is becoming much closer. By the first decade of the 21<sup>st</sup> century, majority of the world's population will be living in urban areas<sup>2</sup> (Ahsan & Islam, 1999). According to United Nations estimates in 2007, for the first time in human history, the world became more urban than rural. About half of the world's population lives in cities; by 2025, nearly two-thirds will live in urban areas (Todaro & Smith, 2010). However, there is a significant difference in the factors of urbanization between the developed and developing world's (UN, 1980). In the west, urbanization as a result of industrialization, people are attracted in the cities due to the demand for labor in industries located in the urban areas (Eusuf, 1999). By 2030, the percentage of urban population of developing countries will grow up by 56% (Adnan, 2011). According to BBS, the rapid urbanization in Bangladesh is 6.8% (Bangladesh Bureau of Statistics, 2003). The density of population in Bangladesh is 904 per square kilometer. According to 2001 Census in Bangladesh 23.39% people lives in urban and 76.61% in rural from the total population. In 2020, urban people will be 38.2% in Bangladesh (Islam, 2003). The patterns of this growth is complex and not good for urban environment.

We can say that the effects of urbanization of Sylhet city are threaten the lives, livelihoods, assets, infrastructural, drainage system, slums, environmental quality and economic gains of city dwellers particularly the urban poorest dwellers. Disposal of garbage in nearby drains low lands, discharge of wastewater into open roadside drains, the concentration of hanging latrines in lower income settlements areas, annual flooding, noise, and domestication of cattle and poultry are major environmental problems faced by Sylhet city dwellers. Social crimes like ransacking, robbery, and toll evasion in the city are common (Ghulam, 2001). Bangladesh's cities are ill-equipped to absorb population influx as a result of outdated, ineffective, and poorly implemented urban planning. The largest nine cities of Bangladesh have development authorities responsible for the city planning, and these plans have been poorly implemented due to lacking of political will and institutional capacity. Water, air, soil and sound are polluted as a result of unplanned urbanization. Therefore, it is crucial that the impacts of urbanization of Sylhet city will be understood by this research. Such understanding should lead to wiser

decisions about the future of Bangladesh. There have a lot of work all over the world about urbanization and environment. But there have no specific works about the impact of urbanization on environment. Therefore, I believed that this research would be very helpful for the students, teachers, researchers, and any others who are interested about it to know the real condition of the impacts of urbanization on environment.

### **1.2 Significance of the Research**

Major responsibility of a state is to ensure welfare and provide fundamental rights to its people. The government of Bangladesh is working to achieve this goal.

However, the government could not fulfill all rights of its people. As a result discrimination between urban and rural people is being appeared. People of rural area do not get such rights what people of urban area get, so to get urban facilities and employments people of rural area migrate to towns. As a result, town becomes hub of all activities.

It is a center place of modernization and communication, and engine of a country's economic development (Girard, 2003). Moreover, cities are the agglomeration of the riches, economic activities, and modern technological advancement and opportunities (Kleniewski, 2006). The Bangladesh have no longer depends predominantly on the agricultural sector in terms of contribution to GDP, the share of agriculture has come down from 60.10 percent in 1972-73 to only 19.32 percent in 1999-2000 (Bangladesh Bureau of Statistics, 2000). As well as this positive dimensions urbanization have negative scenario, which effects the environment. Many argue that urbanization does not reduce poverty; rather it gives to raise an enormous problems and challenges, from which urban poor are direct sufferers (Nazem, 1994.)

Bangladesh although still at a low level of urbanization (25%), its total urban population is a huge one (30 million). In fact it is one of the largest urban population in the world. This population has recorded very rapid growth during the last three decades (nearly 7% annually), and continues to grow rapidly (at over 5% annually). By 2035, Bangladesh will statistically become an urbanized country, with more than 50% of its population being urban (Svirijeva et al., 2004). Sylhet is not a large city. Though urbanization has created more facilities, its environmental problems seem dominant here. Much more vehicles, traffic jam, air and water pollution, increasing of social crimes insufficient service sectors are main problems in Sylhet city. By the increasing urbanization process this impact are rise up. The research will identify the impact of urbanization on environment in Sylhet city.

### **1.3 Literature review**

Rum Ahuja in his book *Social Problems in India* (1997) has examined the cities or towns problems. He says that the increasing has led to problems like crimes, drug addiction, pollution, juvenile delinquency, begging, alcoholism, corruption, unemployment, housing shortage, overcrowding and slums, poverty, noise, communication and traffic control among others. But if cities are places of tensions and strain, they are also the centre of civilization and culture. They are active, innovate, and alive. He identified five major causes of problems in urban life; such as- migration in and out of city, industrial growth, apathy of the government, defective town planning and vested interest forces. He also discussed the social effects of urbanization may be analyzed in relationship to family, caste, social status of women and village life. To remedy urban problems he has given some suggestion like; systematic development of urban centre and creation of job opportunities, regional planning along with city planning, encouraging industries to move to backward areas, municipalities to find own financial resources, encouraging private transport, adopting pragmatic housing policy and structural decentralization. In this book writer only analyzed the social effects of urbanization but he did not discussed environmental, economical, cultural, and others affect of urbanization. In Bangladesh urban crime grew faster than the rural area. Rahman showed that crime related to property such as robbery, dacoity, Mugging, bomb throwing, mastani induced toll collection secretly, armed violence and murder were the highest crime in metropolitans area in Bangladesh. Moreover, violence against women and drug abuse are also common crimes in urban area. Islam (1999) identifies some positive and negative impacts of urbanization in Bangladesh due to migration. The positive consequences are higher productivity, higher income opportunity, decline fertility rate, empowerment, better access to information technology and the negative consequence are housing problem, slums problem, poverty, income inequality, violence and crime, loss of national cultural identity etc. Laskar (1996) finds that urbanization rate in Bangladesh have been high in recent decade. The city is grew faster in highly urbanized than less urbanized areas and the growth of smaller urban centers was low than the large urban centers. Rana (2010) showed that although many cities grew faster in Bangladesh, there arise a major challenge to create sustainable cities in Bangladesh. whose cities are facing environmental, social, and economical problem. Most of the urban poor are facing housing problem in developing country. Most of the people in Dhaka city are facing lack of infrastructural services (e.i. water supply, and sanitation electricity supply housing,

drainage, roads, gas etc). Moreover, environmental problems as air, water, and noise pollution are also major problem in urban area. Kawsar (2012) showed that Bangladesh has been experienced rapid growth of urbanization in last three decades but it is a matter of inconvenience that there arise many negative impacts like environmental pollutions, unplanned urban growth, widening the income inequality etc.

### 1.3 Objectives of the research

The main objective in this research is:

1. To identify and analyze the impacts of urbanization on environment.

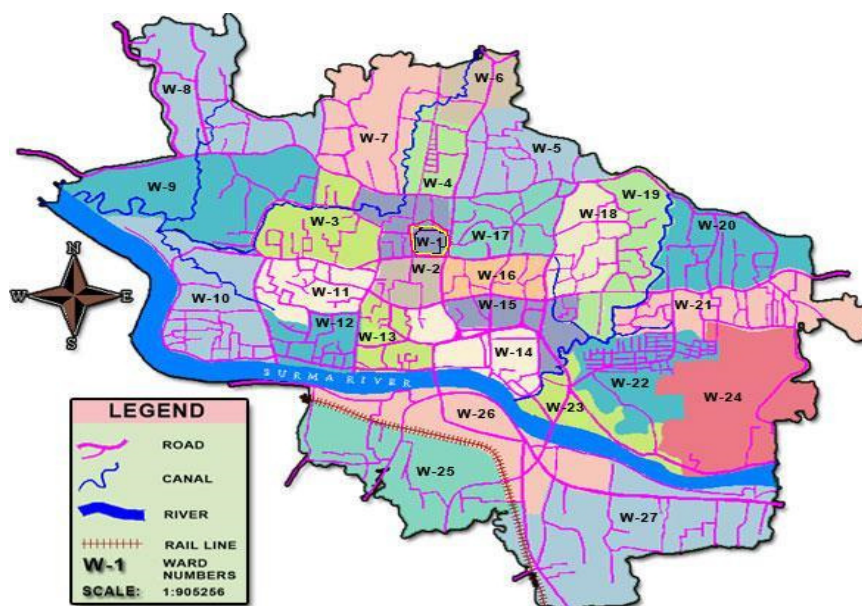
Besides, there are another objective of the research is:

- 1.1 To know the social impacts of urbanization.
- 1.2 To find out the economical impacts of urbanization.
- 1.3 To investigate the cultural impacts of urbanization

### 1.1.1 Materials and methods

A cross sectional study was conducted in Sylhet City Corporation, Bangladesh. Both quantitative and qualitative methods were used in this research to achieve the objectives of the study. Social survey method was used for quantitative method and focus group discussion (FGD) was used for qualitative method.

In this research two mahallas (Ambarkhana west and Chowhatta) were purposively selected as a research area under Sylhet City Corporation, Bangladesh. These mahallas are situated in the ward no 3 of Sylhet City Corporation. All voters of under these two mahallas are the population of this study. The total voters in research area are 1059. There are 689 men voters and 370 are women voters. The simple random sampling procedure was applied to select an appropriate number of samples from the population. 50 voters was selected from this population as a sample.



Research area in  
city

Figure1:  
Sylhet

Data was collected through face to face interview. A Semi structured questionnaire was developed to collect the data from the respondents. Data are analyzed and presented by using SPSS 20 program (Statistical package for social science). The results are described by percentage.

## 1.2.1 RESULTS

### The Impact of Urbanization on Environment

In this chapter will be discussed about the impact of urbanization on environment. There are different impacts of urbanization on environment of Sylhet city. Environmental, social, economical, cultural and political are the main impacts of urbanization of Sylhet city. Those impacts discussed are below:

#### 1.2.1. Environmental Impacts

There are different environmental impacts such as:

- a) Water supply problem, Solid waste management, disposing waste system, water logging problem. Traffic Congestion, sound pollution.

#### 1.2.2 Water supply problem

Table 1 Insufficient of Pure water supply

Pure water supply	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	8	16.0	16.0	16.0
No	42	84.0	84.0	100.0
Total	50	100.0	100.0	

Table 1 show that pure water supply is not sufficient. 84 percent respondents said that they do not get sufficient pure water to fulfill their demand. A few respondents (16 percent) said, they get sufficient pure water from SCC. From this result, it says that insufficient pure water supply is a major problem in Sylhet city. It is not being possible to supply adequate pure water to Sylhet city for the lack of 'Water Treatment Plant', over population and down going on under surface water.

Table 2 Steps of supplying pure water

Supplying pure water	Frequency	Percent	Valid Percent	Cumulative Percent
Purifying water	10	20.0	20.0	20.0
To implement water treatment plant	32	64.0	64.0	84.0
Creating new source to supply water	8	16.0	16.0	100.0
Total	50	100.0	100.0	

Table 2 shows the steps of supplying pure water. 20 percent respondents opine that purifying water is needed for supplying pure water. Nevertheless, 64 percent respondents think that to implement Water Treatment Plant system is more eligible. Only 16 percent respondents opine, creating new source to supply pure water is needed. Therefore, to supply demanded water to the dwellers of Sylhet city, it is necessary to implement above three steps.

### 1.2.3 Solid waste management problem

Table-3 Solid waste management

Waste management	Frequency	Percent	Valid Percent	Cumulative Percent
In dustbin	37	74.0	74.0	74.0
In river	6	12.0	12.0	86.0
In drain	7	14.0	14.0	100.0
Total	50	100.0	100.0	

Table 3 shows that among 50 respondents, 74 percent of the total respondents are disposing their solid waste in dustbin, 12 percent are disposing in river and 14 percent are disposing in drain.

This shows below table-

Table- 4 Environmental problems of solid waste mismanagement

Environmental problems	Frequency	Percent	Valid Percent	Cumulative Percent
Air pollution	43	86.0	86.0	86.0
Water pollution	7	14.0	14.0	100.0
Total	50	100.0	100.0	

In the table 4, it shows the opinion of the respondent about the environmental problems of solid waste mismanagement. They gave their opinion, 86 percent says that, air is polluting by solid waste mismanagement and 14 percent support to water pollution. Throwing waste in streets and drains instead of dustbin, there create odor. As a result, air becomes polluted. On the other side, solid waste mixed with water of river and water becomes polluted. Moreover, in toxic chemical waste is also spreading rapidly into canals and rivers.



Figure 2.The waste on the roads in Sylhet city Corporation

Water species are in the face of extinction. Soil is losing its strength. Hence, air pollution from the waste is affecting the animals and various types of disease are spreading over human being body. Waste could be transmitted to wealth using modern science and recycling process. For this reason, 14 recycling process have been mentioned. The developed countries including Europe and America have been capable managing the waste into wealth<sup>10</sup>. Over all, the city dwellers are not satisfied to waste disposing management. Below table shows it-



Table 5 Satisfaction over disposing waste system

Environmental problems	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	15	30.0	30.0	30.0
No	34	68.0	68.0	98.0
No comment	1	2.0	2.0	100.0
Total	50	100.0	100.0	

From the table 5, it is seen that, the satisfaction of the respondent over waste disposing system. Here only 30 percent respondents said that they are satisfied over disposing waste management in Sylhet city, but 68 percent respondents said, they are not satisfied over disposing waste management. 2 percent had 'no comment' categories. Therefore, from this data it can say that majority of the respondents are not satisfied over waste disposing system. Shortcoming of enough vehicles and work force and on time no waste disposing is responsible for the dissatisfaction.

#### 1.2.4 Water logging problem

Table 6 Causes of water logging problem

Water logging	Frequency	Percent	Valid Percent	Cumulative Percent
Insufficient drainage system	34	68.0	68.0	68.0
Insufficient canal and drains	3	6.0	6.0	74.0
Canal drains and ponds are going to occupiers	13	26.0	26.0	100.0
Total	50	100.0	100.0	

Table 6 shows the water logging problems. Here shows that 68 percent respondents said that insufficient drainage system are the major cause of water logging. Second large of the 6 percent respondents are said that insufficient of canal and drain is cause of water logging. 26 percent of the respondents think that canal, drains, ponds are going to occupiers is the main cause of water logging. Want of enough finance, lack of drain and canals, water logging are going on. Besides these, powerful people of society occupy drains, canals and build houses and infrastructure like industry, market and factory. These canals and drain are not being free from them. So water logging is going on.

Once a lifeline for the city, the major canals in the city have been encroached and narrowed down that cannot carry enough water during heavy rains as water remains stagnant in most of the prime roads and areas for hours after the rain. In many areas, streams have totally disappeared. One decade ago there were about 17 ponds in Sylhet city that used to retain a huge amount of rainwater. But now many of these have been filled up. About 2.68 square kilometer of water body has been filled up by earth for urban development in recent times by growing housing projects in low lands in and around the city. Uncollected waste is washed out into the roadside drains and natural canals. Blockage of drains by solid waste reduces the carrying capacity of drains and natural canals and a source of pollution. Sylhet City Corporation has very limited resources to clean the drains. It has been observed that in low income residential and slum areas, domestic these channels directly convey sewage. On the other hand during the rainy season flash flood brings in substantial flood water into the Surma River as a result, the water level rises to a great extent, making discharge of drainage and sewerage difficult. The obstruction in drainage creates stagnancy in the water flow. Local inundations are more acute due to poor drainage facilities<sup>14</sup>.

#### 1.2.5 Traffic Congestion

Traffic congestion is a complex problem of Sylhet city. It occurs for occupying footpath by hawkers, increasing huge population and various vehicles, parking of vehicles unplanned places and building of unplanned houses in the important streets of the city.

Table 7 Causes of traffic jam

Causes of traffic jam	Frequency	Percent	Valid Percent	Cumulative Percent
To deal business Occupying footpath	18	36.0	36.0	36.0
No car parking system	6	12.0	12.0	48.0
More vehicles	26	52.0	52.0	100.0
Total	50	100.0	100.0	

Table 7 shows the causes of traffic jam. It shows that 52 percent said that more vehicles are the major cause of traffic jam. Second large of the 36 percent respondents are said that to deal business occupying footpath is also cause of traffic jam. 12 percent of the respondents think that no car parking system is the main cause of traffic congestion. So it can be said undoubtedly that, traffic jam occurred for these above mentioned three reasons.

**Table 8 Problems of traffic jam**

Problems	Frequency	Percent	Valid Percent	Cumulative Percent
Air pollution	14	28.0	28.0	28.0
Noise pollution	6	12.0	12.0	40.0
Waste of time	30	60.0	60.0	100.0
Total	50	100.0	100.0	

In the given table 8, shows the problems of traffic jam. Here shows that 60 percent respondents think that waste of time is the main problem of traffic jam, 28 percent think that air is polluting by the cause of traffic jam and 12 percent think that noise is polluting by the cause of traffic jam. For traffic jam, normally many vehicles gathered a place. As a result, they are polluting air by their emitting smoke and creating high volume sound by horns. Therefore, they pollute environment. Besides these, traffic jams also responsible for waste of time. So employers and students cannot reach their destination in time.

### 1.2.6 Sound Pollution

It is getting human health hazards when it is level to be upon 60 decibel. People feel disturbed by noise from construction activities, aircrafts, the hydraulic horn of vehicles, industries and factories, loudspeakers and workshops of various categories.

**Table 9 Facing of sound pollution**

Sound pollution	Frequency	Percent	Valid Percent	Cumulative Percent
High volume sound of vehicles	43	86.0	86.0	86.0
Loud speakers	2	4.0	4.0	90.0
Industry	5	10.0	10.0	100.0
Total	50	100.0	100.0	

Table 9 shows the causes of sound pollution. It shows that 86 percent said that high volume sound of vehicles is the major cause of sound pollution. Second large of the 10 percent respondents are said that industry is also cause of sound pollution. 4 percent of the respondents think that loud speakers is the main cause of sound pollution. Too much vehicles in the city, unskilled car driver and their unconsciousness, unnecessary horns sound are responsible for environmental pollution. Besides these, many people play music in high volume in houses, market and factory which create noise.

There is little awareness among public about physical and mental damages caused by noise. High blood pressure, headache, indigestion, ulcer, sleep disturbance, loss of hearing, stress, poorer work performance and increased anxiety are effects from noise.

In Sylhet city, a huge fleet of motorized vehicles such as bus, minibus, truck, car, jeep, microbus, three wheeler and motor cycle emit toxic substances such as carbon monoxide, oxide of nitrogen, oxide of sulfur, hydrocarbons and their derivatives, lead, and particulate matter<sup>21</sup>. Together they cause serious irritation and infection of eye, nose, throat and lungs.

### 1.3.1. Social Impacts of Urbanization

In Sylhet city, people are face to various social problems for the reason of urbanization. These effects have discussed below:

### 1.3.2. Social Crimes

Among the many negative social consequences of urbanisation are the increases in the incidence of crime. Like others cities of Bangladesh, social crimes are the common scenario of Sylhet city. Crime in the city can create a sense of insecurity to its habitants. High rates of urban population growth in the city have created serious problems of insufficient employment opportunities, pressure on social services, particularly education, health and housing and a rise in urban crimes (Tapadar, 2012).

Prevailing common social crimes in the city are hijacking, looting, stealing, dacoits, burglary, murder, arson, rioting, intentional acid throwing; kidnapping and rape.

### 1.3.3. Impact over Family

In Sylhet city, the urbanization affects not only the family structure but also intra and inters family relations, as well as the functions the family performs. Urban joint family is being gradually replaced by nuclear family, the size of the family is shrinking and kinship relationship is confined to two or three generation's only (Ahuja 1997). Today the trend of family is towards a break with the traditional joint family form into the nuclear family unit. Small joint family is now the most typical form of family life in Sylhet city.

Table 10, Joint families are breakdown for causing urbanization

Breakdown joint family	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	36	72.0	72.0	72.0
No	9	18.0	18.0	90.0
No comment	5	10.0	10.0	100.0
Total	50	100.0	100.0	

In the given table 10, here is given the information about the Causes of breakdown of joint family. 72 percent respondent said joint family breakdown by the cause of urbanization and 18 percent said joint family does not breakdown by the cause of urbanization. 10 percent respondents are belonging to 'no comment' categories.

### 1.3.4. Urbanization and Overpopulation Problems

The major cause of most environmental problems is the rapidly growing human population. Like other cities of Bangladesh, Sylhet is gradually becoming crowded. According to the population census of 2001, Sylhet city has been ranked as the sixth urbanized city in Bangladesh. The population in this city is going several times faster than other city of Bangladesh and the growth of slums appears to be the direct outcome of the growth of city population because of rural to urban migration pushed by the rural poverty and unemployment (Rahman, 2011). The city area is endowed with educational institutes, residential areas, hotels, community centers, restaurants, banks, pharmacies, office building, health clinics, etc. The push and pull factors help to migrate people from rural area to city area. As a result the city is being developed in an unplanned and haphazard manner. So along with other problems of serious environmental concern in the city are stemming from unmanaged urbanization that include environmental problems associated with slum and squatter, drainage problems, sanitation problem and above all social problems created by the poor inhabitants (Final Plan Report -2010).

### 1.3.5. Housing Problems

Housing is one of the basic human needs like food and clothing. It provides shelter, safety, and sense of belonging to a person (Ahsan & Islam, 1999). Due to increase of population in Sylhet city, direct pressure is visible on the housing sector. The housing situation is unsatisfactory in the city. Urbanization, particularly rapid urbanization within a situation of weak economic condition, creates extreme pressure on housing and urban services like education, health, transportation, water, sanitation, electricity, fuel, garbage clearance, recreation etc.

## 1.4. Economic impacts of Urbanization

### 1.4.1. Unemployment Problems

Due to rapid increase of urban population, labor force is also increasing rapidly, and a result, unemployment and under unemployment is a common feature in Sylhet city. This is an age of specialization; it is an age of machines. If there is structural unemployment many people lose their jobs and it becomes difficult to get another. They face difficulties at times when they are out of unemployment. They cannot carry on their daily life.

Table 11 Unemployment problems

Unemployment problems	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	38	76.0	76.0	76.0
No	12	24.0	24.0	100.0
Total	50	100.0	100.0	

Table 11 shows the unemployment problems due to impact of urbanization. 76 percent respondents said 'yes' and 24 percent said 'no'. Therefore, it can say that majority of the respondents think unemployment problems are increasing for the reason of urbanization in Sylhet city.

### 1.4.2. Effects of Industrialization

Sylhet city is not an industrial base area. It is called third industrial sector of Bangladesh after Dhaka and Chittagong. The construction industry in Sylhet is currently booming with many shopping centers, apartments and hotels being built of luxurious standards, funded by non-resident Bangladeshis (Final Plan Report -2010). There are different sizes of small and cottage industries are located in and around the city. They include



factories, like, rice processing, bread and biscuit, dairy, medicine, small engineering, printing, sewing, repairing, poultry and so on. Those factories are now increasing continuously.

#### 1.4.3. Effects of Infrastructure Facilities

Urbanization also effects in infrastructure facilities. In Sylhet city, infrastructure facilities are developing very poorly. The general passenger going to different places by used rickshaws. Most of them are unauthorized which are gradually increasing. According to Sylhet City Corporation, there are 219, 98 KM roads in the city area. The number of population and vehicles are increasing day by day but roads and others facilities have not being increased in the same ratio in the city. The public mass transport system in the form of buses, minibuses, four strokes, rickshaws are available in the city, the services are highly inadequate.

Table 12 Infrastructure Problems

Infrastructure Problems	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	30	60.0	60.0	60.0
No	20	40.0	40.0	100.0
Total	50	100.0	100.0	

Table 12, shows that among 50 respondents, 60 percent of the total respondents said that they get infrastructure problems, which occurred, for urbanization. While 40 percent stated that they are not get infrastructure problems. From this data, it is clear that most of the respondents said that the infrastructure facilities are insufficient in Sylhet city.

#### 1.4.1. Cultural impacts of Urbanization

People in the Sylhet city are increasing day by day for the reason of migration. As a result, two types of cultural condition are being created. In one side, old city dwellers are habituated with urban culture, other side migrating people mingling rural and urban culture. In this consequences the cultural separation among the people are increasing. The urban people are very much individualistic in their attitude. The inmates of the same buildings may not know one another. There is more formal relationship among them than in a rural area. Mostly urban culture has been shaped like western culture. As a result, satellite and anti-culture are penetrating rapidly to the city instead of the domestic heritage and culture. For this reason, values and ethics of urban society are losing day by day.

Table.13 Extinction of domestic culture

Extinction of domestic culture	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	34	68.0	68.0	68.0
No	16	32.0	32.0	100.0
Total	50	100.0	100.0	

Table 13 shows the extinction of domestic culture. Here shows that 68 percent respondents are said that domestic cultures are extinction for the causing of urbanization. 32 percent respondents think that domestic cultures are not extinction. From this data, it shows that domestic culture extinct day by day for the reason of urbanization.

#### 1.4.2. Discussion

Sylhet City Corporation cannot supply adequate water according to the demand of city dwellers. The existing water pumps of SCC cannot supply sufficient water for all. They are operating with a daily capacity of about 100 m<sup>3</sup>/h per pump but supply is inadequate. The scarcity of public water supply is mainly occurs due to increase over population in urban area. Now most of the city dwellers are bound to buy water from pure water producing centers. They have to spend 40 to 50 taka for each gallon of water (Rahman, 2011). The main source of supplied water through SCC under surface water only 40 % of the water need is fulfilling through the source (Hossain: 2001). A large number of populations of SCC are deprived of the water supplied by City Corporation and are mostly dependent on tube well water (Masum and Foysal, 2012). In addition, the water layer of SCC has considerably declined over a few decades. The Under surface water of SCC has under gone from 3380 milliliters to 7880 mm (Masum and Foysal, 2012). Mentioning the demand of 70000 cube meter water, SCC Mayor Bodor Uddin Ahmed Kamran says two water extractive surface water treatment plant capable of producing 2 crore 80 lakh liter water is being built under the project of Sylhet – Barisal water supply service (Rahman, 2011) Pure water supply is also insufficient, for which the quality and quantity of water are always unsatisfactory to the dwellers.

Solid waste management means proper collection, transfer, recycling and disposal of solid wastes. In Sylhet city, the solid waste disposal is inefficient or non-existing. The solid wastes accumulated in the areas of Sylhet City have derived from various sources such as: household or domestic wastes derived from households and domestic holdings , commercial refuse derived from commercial offices and business holdings , institutional refuses from community holdings like schools, colleges, mosques, temples, churches, clubs, community centers, auditoriums,

and community organizations, street sweepings from all kinds of streets including highways and arterial sub arterial roads, sanitation residues from all types of sanitary facilities e.g. human excreta, toilet papers etc. hospital wastes and dry excreta of cows, chicken etc (Rahman et al. 2006). The City Corporation authority has set up only 160 concrete made bins for waste disposal in some places of the city area. About 240 tones of solid waste are produced everyday from domestic, commercial and clinical sources (Masum and Foyzal, 2012). Everyday City Corporation dumps about 135 tons of waste manually from main and other roads and the remaining (44%) are consumed by the city (Shyamal Sylhet, 2012). People usually do not dump the waste into the dustbin due to the lack of awareness. They after throws the waste on the streets and the wastes mixed up with rain water and eventually spread over roads and drains

The houses and institution are use dustbin for waste disposing, whose beside have dustbin. Dustbins have managed by public and privately. People are disposing waste into the river and drain for the reason of insufficient dustbin and lack of adequate rules and regulations.

According to SCC most of the wastes of Sylhet City Corporation is dumped to the Lal Mati Hoar of South Surma. Some of them are disposed in a pond of Akhalia by the private initiatives. The area where the waste is disposed in South Surma is in fact a hoar area. As a result, the waste spread over the area and mixed with water that leads to the most extinction of wild life. Because of this waste disposal, the water, air and soil are being polluted altogether (Barkat and Akhter, 2001)

As a result of increasing urbanization, City dwellers are to confront with water logging. The main reason behind water logging is the breakdown of drainage system. During the over rain fall in the areas like Charadigirpar, Tatipara, Hawapara, Dorgagate, Kumarpapa, Zornarpar, Kuwarpara, Mirabazar, Raynagar, Dariapara, Ambarkhana, Boro bazaar, Chowhatta, Uposahar, Zindabazar, vatalia, Taltola areas face the water logging up to the 3 to 6 feet water mark. Statistically shows that, there have been about 300 illegal buildings grown up by occupying lakes and canals (Final Plan Report, 2010). Sixteen canals and nine sub canals (locally called "Chhora") pass through the structure plan area that serves as the primary drainage channels of the town. These canals apart from storm water carry waste water from the town and discharge it into the Surma River without any treatment (Rahman et al., 2006)

Water logging is a very common physio-hydrological phenomenon in Sylhet. Even after a minor downpour, the town experiences very disturbing water logging in its different parts. The main reason of water logging is attributed to the drainage congestion due to unplanned growth of structures (Final Plan Report -2010) and blockage of draining channels

Traffic congestion is a complex problem of Sylhet city. It occurs for occupying footpath by hawkers, increasing huge population and various vehicles, parking of vehicles unplanned places and building of unplanned houses in the important streets of the city.

The traffic congestion is extremely bad in Sylhet city and transport traffic in the city area at least during the rush hours is slow. Sylhet City has several types of vehicles Such as: Car, micro Bus, Rickshaw, Auto rickshaw, Bicycle, Motor Cycle, Minibus, Tempo, Truck, Pick up, Van, Human Driven Van etc. One of the major reasons for the traffic congestion in the city is unauthorized rickshaw, their illegal movement and unplanned parking. About 5000 rickshaw move in the city unplanned (Khan, 2005). About 1,000 battery-run three-wheelers are plying in Sylhet without licenses for more than a year, depriving the government of a large amount of revenue (Tapadar, 2012.)

In the central portion of Sylhet city, floating shops, mobile hawkers, artisans and temporary traders of different goods and commodities occupy almost every road. From Surma market to court point, zindabazar, chowhatta, ambarkhana area and court point to Bandar bazaar, Shisu Park, both sides of these roads are occupied by temporary traders, so main roads become narrow. For this reason, traffic congestion appears there.

Lack of parking facility for the increasing number of motorized vehicles is one of the major causes of aggravating traffic congestion in SCC area. There are so many high-rise buildings situated in the commercial hubs of SCC area and many are going to be constructed. Most of these have almost no parking facility (Banik, 2009).

According to the city corporation statistics, without car parking system no one can get license to build multi-stores building. Multi-stores building means 5 to 6 floors these high-rise buildings and users of these buildings have to park their vehicles on the roadside that causes severe traffic building (Tapadar, 2012). Setting up commercial complexes on the lower floors is very common practices in congestion in peak hours (Banik, 2009). On the other hand, in front of the large educational institute of the city traffic jam occurs. For this reason, there are no parking places in these institutions. In the below table showed the traffic problems-

### 1.5.1. Conclusion

In conclusion it can be said that, because of urbanization, population is increasing in Sylhet city. Sufficient pure water cannot be provided in the city being population more in proportion to its area. The drainage of waste and dump pollutes the environment in the city. The majority of the people dispose waste in the dustbin. Because of insufficient manpower and vehicle problem, waste and dumps are not disposed timely. As a result bad smelling is created, which pollutes the environment. About 73% people are not satisfied with the drainage of the city corporation. Insufficient drainage system, inadequate canal, drain and ponds are going to occupiers are the main causes of water logging. However, 64% people think that insufficient drainage system is the main cause of water logging. Traffic jams are found in the city, because of over vehicle. Moreover occupation of footpath and business on it and the shortage of parking system create traffic jam. As a result, men have to waste a lot of time. Because of sound pollution, headache hard of hearing, blood pressure etc problem are created. The respondents view that the emitting smoke from vehicles makes air pollution vastly.

Social crime tendency is increasing hugely because of urbanization, particularly, theft, decoity and hijack etc. Most of the respondents think that joint family tradition is disappearing because of urbanization. About 62% respondent viewed that the roads and streets are not sufficient in the city. Also, they think that rural culture is being lost because of urbanization. Industrialization creates employment 'Urbanization accelerates industrialization' considered by most of the respondents. But rich industries have not built up in Sylhet city yet. All the problems, mentioned above are existing in Sylhet city. Only urbanization is responsible for these problems. With the change of time, these problems are increasing every day. By this research, negative effects of urbanization in Sylhet city are appeared. So it can be said clearly that, these problems are not only for Sylhet city, but a common phenomenon for all cities of Bangladesh. So, to resolve the effect of urbanization, the citizens should be conscious and as well as the government should take proper initiatives.

The following recommendations are given to remove the impact of urbanization on environment.

- To start the activities of 'water treatment plant' this approved in 2011 for the sake of providing water through purifying.
- To produce fertilizer by recycling of waste. Inaugurate the 'Recycle Plant' soon. Waste and dumps should not be thrown here and there but need to be dumped in a particular place. In this case, mass awareness needs to be aroused.
- To manage sufficient manpower and vehicle for the sake of drainage of waste, disposal waste everyday timely and use trucks, vans with lids to dispose waste.
- Develop drainage system to remove water logging and apply the rule of law to increase the occupied river. Canal and drain etc. these are cleaned timely.
- Approve the vehicle to ply on in proportion to the city and its roads. Let not the unregistered vehicles ply on the roads. The traffic laws should be applied properly.
- Build up alternative roads and streets and recover the footpaths.
- Use tolerable horns in the cars to stop sound pollution and apply the proper law on horns.
- The vehicles emitting smoke must be stopped to keep the environment pollution free.
- Create employments hugely to remove social crime tendency.
- Establish urban area plan (2010-2020).
- Decentralization of employment from Sylhet city. For this, public-private investment should be increased.

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